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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/695,775 | 10/24/2000 | Charles D. Ray | Q00-1042-US1 | 2360 |
| 32093 | 7590 | 08/10/2004 | EXAMINER | |
| HANSRA PATENT SERVICES 4525 GLEN MEADOWS PLACE BELLINGHAM, WA 98226 | | | DAVIDSON, DAN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2651 | |

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/695,775

Applicant(s)

RAY ET AL.

Examiner

Dan I Davidson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-12, 30, 32 and 34-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 6, 12, 30, 32 and 34-39 is/are rejected.
- 7) ☒ Claim(s) 2, 7-11 and 40-43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed June 21, 2004 has been received and has been made of record. An Office Action in response to the above amendment follows.

Claim Objections

2. Claims 37 and 42-43 are objected to because of the following informalities:

(1) In claim 37, line 3, "transferred" should be deleted since it lacks antecedent basis.

(2) In claim 42, line 15, "to" should be replaced with --for-- for grammatical correctness.

(3) In claim 43, line 27, "to" should be replaced with --for-- for grammatical correctness.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 5-6, 12, 30, 32, and 34-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Chew et al (US 6,567,233 B1).

Re claims 1 and 12; Chew et al disclose a data transfer driver for a disk drive (Fig. 4; col. 4, line 41) including one or more magnetic data disks having one or more recording surfaces (col. 4, lines 41-43), a plurality of data transducer heads positionable relative to the recording surfaces (Fig. 4, 415-414, 425-424) by a head position actuator structure (Fig. 7, Plant) operating within a head position servo loop (Fig. 7; Fig. 4, 457), the data transfer driver comprising: a preamplifier (Fig. 4, 401) comprising a plurality of head interfaces, each head interface electrically connected to a transducer head for controlling the transducer head for data read and/or write operations (Fig. 4, 411-412, 421-422); a mode controller electrically connected to each head interface (Fig. 4, 431) and responsive to a servo controller (inherent that servo controller needed to provide the go ahead to read and write on the media; i.e. an indication has to be provided that head positioned properly before reading and/or writing) for controlling the operation of each head interface for selectively reading data from at least one recording surface via at least one transducer head while simultaneously writing data to at least one recording surface via at least one transducer head (col. 5, lines 59-63; col. 6, lines 58-61; col. 7, lines 29-31; col. 7, lines 49-65; implications of col. 6, lines 19-23).

Re claims 3 and 32; Chew et al disclose that the mode controller controls the operation of the head interfaces based on configuration information (from Fig. 4, 455, 402, ultimately from host), wherein the configuration information includes data transfer mode (Fig. 4, note that serial interface 431 activates read channel post-amp and write pre-driver) and transducer head selection information (Fig. 4, note that serial interface 431 activates read/write head selects).

Re claims 5 and 34; Chew et al disclose a control interface connected to the mode controller, the control interface for receiving configuration information wherein the mode controller controls the operation of the head interfaces based on the configuration information (Fig. 4, 455).

Re claims 6 and 35; Chew et al disclose that each head interface comprises: a read circuit for controlling the corresponding transducer head to read data from a recording surface, and a write circuit for controlling the corresponding transducer head to write data to a recording surface (Fig. 4, 411, 421).

Re claim 30; the limitations at this claim are satisfied based on the discussion above, since the limitations at this claim are encompassed by the limitations at claims 1 and 3.

Re claim 36; Chew et al disclose that the mode controller controls the operation of the head interfaces based on the configuration information for writing data to a recording surface via a transducer head while reading data from the recording surface via that same transducer head (col. 7, lines 49-51).

5. Claims 30, 32, and 34-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Krounbi et al (US 6,693,760 B1).

Re claim 30; Krounbi et al disclose a disk drive (col. 3, line 58) comprising: recording media having one or more recording surfaces (col. 3, line 59), one or more data transducer heads (Fig. 8, Heads #1 and #2), a head position actuator structure for positioning the heads relative to the recording surfaces (col. 5, lines 48-51), operating within a head position servo loop (col. 6, lines 4-8; it is inherent that maintaining proper

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tracking using head position control information requires a head position servo loop); a preamplifier (Fig. 8A, 46) comprising: one or more head interfaces, each head interface electrically connected to a transducer head for controlling the transducer head for data read and/or write operations (Fig. 8A, 66A, 66B, 68A, 68B, 51A, 51B, 53A, 53B); a mode controller electrically connected to each head interface (Fig. 8, 56; the mode controller applies the control data) and responsive to a servo controller (inherent that servo controller needed to provide the go ahead to read and write on the media; i.e. an indication has to be provided that head positioned properly before reading and/or writing), for controlling the operation of each head interface based on configuration information for selectively reading data from at least one recording surface via at least one transducer head while writing data to at least one recording surface via at least one transducer head (see options in Fig. 8B); and a drive controller configured for controlling the head position actuator structure to position the heads relative to the recording surfaces (col. 5, lines 48-51; voice coil motor requires a drive controller), and for providing the configuration information to the preamplifier for selectively reading data from at least one recording surface via at least one transducer head while writing data to at least one recording surface via at least one transducer head (Fig. 8A, 56).

Re claim 32; Krounbi et al disclose that the configuration information includes data transfer mode and transducer head selection information (Fig. 8B).

Re claim 34; Krounbi et al disclose that the preamplifier further comprises a control interface connected to the mode controller, the control interface for receiving

configuration information from the drive controller when the mode controller controls the operation of the head interfaces based on the configuration information (Fig. 8A, 55).

Re claim 35; Krounbi et al disclose that each head interface comprises: a read circuit for controlling the corresponding transducer head to read data from a recording surface, and a write circuit for controlling the corresponding transducer head to write data to a recording surface (Fig. 8A, 68A, 66A).

Re claim 36; Krounbi et al disclose that the mode controller controls the operation of the head interfaces based on the configuration information for writing data to a recording surface via a transducer head while reading data from the recording surface via that same transducer head (Fig. 8B).

Re claims 37-38; Krounbi et al disclose that the disk drive further includes a reference disk having a reference pattern thereon, wherein the reference pattern comprises servo clock information providing transducer head circumferential relative position information, and servo position information providing transducer head radial relative position information (col. 5, lines 27-30); wherein the drive controller is further configured for reading the reference pattern from the reference disk via a transducer head and using the read servo clock and the servo position information to position and maintain *one* or more transducer heads on *one* or more of the data disk recording surfaces while at the same time writing final servo patterns onto the *one* or more data disk recording surfaces (col. 5, lines 30-36).

Re claim 39; Krounbi et al disclose a pattern generator for generating the final servo patterns for writing to the recording surfaces (col. 5, lines 23-25).

Allowable Subject Matter

6. Claims 42 and 43 are allowed over the prior art of record for the reasons indicated in the previous Office Action mailed February 17, 2004.

7. Claims 2, 7,⁸⁻¹¹ and 40-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Re claims 2 and 41; the prior art of record fails to teach or suggest selectively reading data from at least one recording surface via at least one transducer while writing data to a plurality of recording surfaces via a plurality of transducer heads.

Re claims 7 and 40; the prior art of record fails to teach or suggest selectively reading data from at least one recording surface while (simultaneously) writing data to a plurality of recording surfaces.

Response to Arguments

8. Applicant's arguments filed June 21, 2004 have been fully considered but they are not persuasive.

With respect to Applicant's arguments regarding claims 1 and 2, Applicant explains the gist of the disclosure of Chew et al, but fails to show that the Examiner is incorrect in stating that Chew discloses "selectively reading data from at least one recording surface via at least one transducer head while writing data to at least one recording surface via at least one transducer head".

With respect to Applicant's argument regarding claim 3, the section relied upon by the Examiner to reject the claim does show a degree of specificity in the operation of

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the CPU that meets the limitation at this claim ("to a particular file, sector, or the like").

To further clarify how Chew et al satisfies the limitation, the Examiner has broadened the definition of the mode controller in this rejection.

Applicant's argument with respect to claim 5 is addressed above in the Examiner's response to Applicant's argument with respect to claim 3.

9. Applicant's arguments filed June 21, 2004 with respect to the rejection of claims 30-32 and 35-36 under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,411,459 to Belser et al are persuasive. The rejections of the above claims as being anticipated by Belser have been withdrawn.

Conclusion

10. Since this Action contains a newly formed rejection, this action will not be final.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Baker et al (US 6,704,156 B1) teach using a printed reference pattern on a magnetic disk to position data transducers for self-writing servo information.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan I Davidson whose telephone number is (703) 308-8535. The examiner can normally be reached on Monday-Friday 8:30-5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran, can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application

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DID
Dan I Davidson
July 25, 2004


SINH TRAN
PRIMARY EXAMINER